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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,064

01/26/2006

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GJ-276J

2041

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04/30/2008

EXAMINER

PARSONS, THOMAS H

ART UNIT

PAPER NUMBER

1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,064	Applicant(s) GILMOUR, ALEXANDER	
	Examiner THOMAS H. PARSONS	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/26/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1 143 549 (hereafter EP '549).

Claim 1: EP '549 in Figures 1-3 discloses an electrochemical cell which comprises the following:

(i) a positive electrode (21) which, in addition to the cathodic active material, contains a compound MA_xO_y , where M is an alkali or alkaline earth metal and A is a non-metallic element where $0.3 \leq x \leq 2.0$ and $1.3 \leq y \leq 4.0$, such that on charging, the acid anhydride A_xO_y is generated "in situ", (paragraphs [0016], [0027], and [0118]-[0130]) and

(ii) a solid composite polymer film acting as separator whose structural units contain basic functional groups containing nitrogen atoms in 5 or 6 member heterocyclic rings or in tertiary aliphatic configuration into which is incorporated an ionisable salt LiX , having a higher decomposition voltage than MA_xO_y , where X is an acid radical (paragraphs [0035] and [0131]). See also entire document.

Claim 2: EP '549 further discloses that the alkali metal is lithium (paragraph [0016])

Claim 3: EP '549 further discloses that the non-metallic element is carbon.

Claim 4: EP '549 further discloses that the acid radical X is one or more of the following: AlCl_4 , BF_4 , PF_6 , ClO_4 , CF_3SO_3 , $\text{N}(\text{CF}_3\text{SO}_2)_2$ (paragraph [0033]).

Claim 12: EP '549 discloses that the cathode active material is lithium cobalt oxide LiCoO_2 or a mixed nickel cobalt oxide $\text{LiNi}_{0.85}\text{Co}_{0.15}\text{O}_2$ (paragraphs [0016] and [0027]).

Claim 14: EP '549 discloses a rechargeable (i.e. secondary) battery.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-8, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 143 549 as applied to claim 1 above, and further in view of WO 95/34920 (hereafter WO '920).

EP '549 is as applied, argued, and disclosed above, and incorporated herein.

Claim 5: EP '549 does not disclose that the alkali metal M is lithium, and the element A is sulphur.

WO '920 discloses that the alkali metal M is lithium, and the element A is sulphur (page 3, lines 1-12).

Claim 6: EP '549 does not disclose that the compound MA_xO_y is lithium dithionite.

WO '920 discloses that the compound MA_xO_y is lithium dithionite (page 3, lines 1-12).

Claim 7: EP '540 does not disclose that the compound MA_xO_y is lithium sulphite.

WO '920 discloses that the compound MA_xO_y is lithium sulphite (page 3, lines 1-12).

Claim 8: EP '549 does not disclose that the compound MA_xO_y is sodium dithionite.

WO '920 on page 2, lines 1-2 discloses, "Preferably, the salt of a sulphur is a lithium salt." *Preferably* has been construed as non-limiting, and to one skilled in the art would obviously encompass other appropriated salts including a sodium dithionate.

Claim 11: EP '549 does not disclose that the solid polymer is thermally restructured poly(acrylonitrile)- $(CH=C-CN)_n$.

WO '920 discloses that the solid polymer is thermally restructured poly(acrylonitrile)- $(CH=C-CN)_n$.

Claim 13: EP '549 does not disclose that the cathode active material is lithium sulphite and a transition metal oxide such as VO_2 or M_nO_x where $2 \geq x \geq 1$.

WO '920 discloses that the cathode active material is lithium sulphite and a transition metal oxide such as VO_2 or M_nO_x where $2 \geq x \geq 1$ (page 3, lines 1-12).

EP '549 discloses a compound MA_xO_y in combination with a non-aqueous electrolyte or a solid polymer electrolyte whereas WO '920 discloses a compound MA_xO_y in combination with a non-aqueous electrolyte. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the positive electrode of EP '549 by incorporating the compound MA_xO_y of WO '920 because WO '920 teaches compound MA_xO_y that would have improved voltage characteristics and the charge/discharge cycle thereby improving the overall performance and efficiency of the battery.

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5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 143 549 as applied to claim 1 above.

EP '549 is as applied, argued, and disclosed above, and incorporated herein.

Claim 9: EP '549 does not disclose that the solid polymer is poly(4-vinylpyridine), less than 5% cross linked.

Claim 10: EP '549 does not disclose that the solid polymer is poly(vinylpyrrolidone).

However, EP '549 discloses in paragraph [0131], "...a solid electrolyte...such as acrylic polymer compound may be used. *Such as* has been construed as non-limiting, and to one skilled in the art would obviously encompass other appropriated solid polymers including those claimed.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS H. PARSONS whose telephone number is (571)272-1290. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

Thomas H Parsons
Examiner
Art Unit 1795
